

ABSTRACT OF THE DISCLOSURE

**METHODS FOR GENERATING INSULIN-SECRETING
CELLS SUITABLE FOR TRANSPLANTATION**

The invention relates to methods for generating insulin secreting cells from precursor stem cells or from adult pancreatic exocrine cells. The methods of the invention are useful, for example, for generation of glucose sensitive insulin-secreting β -cells suitable for transplantation, as well as for *in situ* development of insulin-secreting cells in a patient in need thereof. Further, the method of the invention relates to methods for preventing premature differentiation of precursor stem cells into insulin-secreting β -cells. Still further, the invention relates to assay methods for identification of compounds that prevent or activate β -cell differentiation.

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